SKG Temperature Controller

Brand: SKG (Taiwan, China, Professional Industrial Temperature Controller Brand)
Series & Models: Core Models Including Digital Series (MF-48C, MF-904A, MF-96DS, MF-704, TE5E4), Pointer Series (PN-48A, PN-72-WTK, PN-901, PN-903, DB-903), TREX Series (TREX-CH402, TREX-CH102, TREX-CB900) and TPXW4 Intelligent Series[1][2][5][6][8][9][10]
Document Type: Simplified English Manual (EU Compliance)
Version: V1.0
Note: Complies with EU laws and regulations (EMC 2014/30/EU, LVD 2014/35/EU, RoHS 2011/65/EU (2025 latest 10 items control standard), WEEE 2012/19/EC directives) and AliExpress, Amazon, TEMU EU sales requirements, including mandatory product warning/safety information[4]. SKG is a well-known Taiwanese industrial instrument brand, focusing on high-reliability temperature controllers, with complete product specifications covering digital, pointer, intelligent and other types. The products are widely used in plastic machinery, packaging machinery, printing machinery, food baking (oven), washing and dyeing equipment, rubber machinery, shoe machinery and other industrial and commercial scenarios[1][5][9].

1. Overview

SKG temperature controller, a high-quality product independently developed and produced by Taiwan SKG, is an intelligent temperature control device integrating stability, practicability and cost-effectiveness, covering multiple series to meet diverse application needs[1][5][9]. The Digital Series (MF-48C, MF-904A, MF-96DS, MF-704, TE5E4) adopts electronic control principle, supporting dial, knob or key setting, with clear digital display, suitable for food baking, washing and dyeing, plastic processing and other scenarios[1][2][5][8]. The Pointer Series (PN-48A, PN-72-WTK, PN-901, PN-903, DB-903) is a mechanical temperature controller, with simple operation and stable performance, widely used in basic industrial temperature control and small-scale equipment[1][6][10]. The TREX Series (TREX-CH402, TREX-CH102, TREX-CB900) is a high-precision digital model, suitable for vulcanizing machines and other equipment requiring accurate temperature control[1][9]. The TPXW4 Intelligent Series supports rail installation, with complete functions, adapting to automated production lines[1].

Key product advantages: Adopts advanced electronic control technology and high-quality components, with reliable performance and long service life[1][8]; covers multiple control modes, including electronic and mechanical control, meeting different user needs[6][7]; supports multiple input types (K/J/E/T type thermocouple, Pt100), with wide temperature control range (0~399°C, 0~400°C, 0~999°C, varies by model)[2][6][8][10]; provides multiple

installation sizes (48×48mm, 72×72mm, 96×96mm, etc.), with panel-type or rail-type installation, flexible and convenient[6][8][10]; equipped with clear digital or pointer display, supporting temperature setting, power-off memory, over-temperature alarm, system self-tuning and other functions[3][8]; all products comply with EU RoHS 2025 latest 10 items of harmful substances control standard, with CE certification, fully meeting EU cross-border sales requirements[4][8].

2. Product Warning / Safety Information (EU Mandatory for Cross-border Sales)

💡 **Important Safety Warnings** – Read carefully before use to avoid injury, equipment damage, or non-compliance with EU regulations and cross-border platform (AliExpress, Amazon, TEMU) requirements. Installation and maintenance must be performed by trained professionals, in line with EU LVD 2014/35/EU and EMC 2014/30/EU directives[4].

- ⚠ WARNING: This product is for industrial and commercial use, not for household use. Keep out of reach of children and untrained personnel to prevent accidents. Do not eat, drink or smoke when using this product; wash thoroughly after handling.
- ⚠ WARNING: Always turn off the power supply before wiring, maintenance, disassembly or cleaning to prevent electric shock and equipment damage. Isolate the power supply and ensure safety before operation; confirm that the power supply voltage matches the controller's rated voltage (AC 110/220/380V, 50/60Hz, varies by model), and the voltage deviation shall not exceed ±10% to avoid burnout[6][8][10].
- ⚠ WARNING: Do not use the product beyond the rated parameters (voltage, load, temperature), which may cause fire, electric shock or permanent product damage. The rated output load is up to 10A/250V AC (resistive load); temperature control range 0~399°C, 0~400°C (PN-903, DB-903), 0~999°C (TE5E4), varies by model[2][6][10]. Control precision is ±1°C~±5°C, varies by series (digital series ±1~±1.5% F.S., pointer series ±5°C)[6][8][10].
- ⚠ WARNING: Avoid installing the controller in flammable, explosive, humid, dusty or corrosive gas environments to eliminate potential safety hazards; the suitable ambient temperature is -10~55°C, humidity ⩽90% (non-condensing). Keep the sensor away from power cables to avoid electromagnetic interference affecting measurement accuracy. Do not install near cold and heat sources or in direct sunlight[7].

- ⚠ WARNING: The controller must be grounded correctly in accordance with EU EMC and LVD directives; the protective grounding terminal must be marked with the IEC 60417-5019 grounding symbol, and mandatory grounding is required for safe use and EU compliance, which can effectively prevent electric shock and electromagnetic interference, meeting cross-border platform sales requirements[4].
- ⚠ WARNING: Do not modify, disassemble or repair the product without authorization; any unauthorized operation will void the warranty and may violate EU regulations. The product contains precision electronic components (digital series) or mechanical components (pointer series), and unauthorized disassembly will damage the internal structure and affect control accuracy[3][7].
- ⚠ WARNING: In case of abnormal operation (display failure, abnormal heating/cooling, alarm failure, temperature deviation or sensor error), turn off the power immediately and stop using it, then contact professional maintenance personnel. When the sensor line is abnormal, the digital display will show "---" to remind of fault; the pointer series will have obvious deviation, indicating sensor or controller failure[3]. Do not adjust the internal parameters at will to avoid functional failure.
- ⚠ WARNING: Disposal of this product must comply with EU WEEE 2012/19/EC directive; do not discard it as household waste. Do not incinerate the product; hand it over to qualified recycling institutions to meet EU environmental protection requirements. The product complies with EU RoHS 2011/65/EU directive (2025 latest 10 items control standard), and the content of harmful substances (lead, cadmium, mercury, etc.) meets the standard limit[4].
- ⚠ WARNING: This is a Class A product. In a domestic environment, it may cause radio interference; the user may need to take appropriate measures to reduce interference, in line with EU EMC directive and EN 61000 series standards[4]. For cross-border sales, ensure that the product label and packaging meet EU RoHS requirements, and each SKU has a separate RoHS test report[4].

3. Key Specifications (Universal for Series)

Item	Parameter
Operating Voltage	AC 110/220/380V, 50/60Hz (varies by model); MF-904A weight: approx. 0.1kg, external dimension: 96×96mm[6][8][10]

Control Accuracy	Digital Series (MF-904A, TE5E4): ±1~±1.5% F.S.; Pointer Series (PN-903, DB-903): ±5°C[6][8][10]
Control Range	TE5E4: 0~399°C/0~999°C; PN-903, DB-903: 0~400°C; MF-48C: 0~200°C/0~400°C; varies by model[2][6][10]
Input Signal	K/J/E/T type thermocouple, Pt100 (varies by model); MF-904A: K type thermocouple[8][10]
Output Load	Up to 10A/250V AC (resistive load); output modes: relay output, SSR voltage output[6][8]
Installation Type & Size	Panel-type (most series) or rail-type (TPXW4); size: 48×48mm, 72×72mm, 96×96mm (varies by model); DB-903, PN-903: opening size 92×92mm/93×93mm[6][8][10]
Ambient Temperature	-10~55°C; suitable for most industrial and commercial environments[7]
Ambient Humidity	≤ 90% (non-condensing)[7]
Special Features	Digital/pointer display; temperature setting (dial/knob/key); power-off memory; over-temperature alarm; system self-tuning (digital series); sensor fault alarm; relay/SSR output; panel/rail installation; EU RoHS 2025 10 items compliance; CE certification[3][4][8][11]

4. Basic Operation (Universal for Series)

4.1 Power On

Connect the power supply according to the wiring diagram (confirm the voltage matches the rated specification, ensure correct grounding to meet EU compliance), then turn on the power switch. The SKG temperature controller will automatically enter the working state: digital series displays the current measured temperature (PV) and target temperature (SV); pointer series indicates the current temperature through the pointer, allowing quick monitoring of real-time temperature status. The LED indicators (digital series) will show the working status (heating, alarm, etc.) clearly[3][7][11].

4.2 Temperature Setting & Key Functions

1. Basic temperature setting - Digital Series: Press the "SET" key to enter the temperature setting state, the display shows the prompt "SP", and the setting value flashes. Press the "△" (up) or "▽" (down) key to adjust the target temperature, and press the "SET" key again to confirm and exit. If there is no operation for 1 minute, it will automatically return to the normal display state[3]. For models with timing function, press the "SET" key again to set the constant temperature time (prompt "ST"), adjust and confirm[3].
2. Basic temperature setting - Pointer Series: Directly adjust the knob or dial to the required target temperature, no additional confirmation is needed, simple and easy to operate[1][6].
3. System self-tuning (Digital Series): Long press the "Shift/Auto-tuning" key for 6 seconds in the non-setting state to enter the self-tuning mode, the "AT" indicator flashes. After self-tuning, the indicator goes out, and the PID parameters are automatically saved. Long press the same key for 6 seconds to terminate the self-tuning[3].
4. Alarm reset: When the over-temperature alarm or sensor fault alarm occurs, the buzzer sounds, and the "ALM" indicator is on or flashing. Press any key to mute; after troubleshooting, the alarm will automatically reset[3].
5. Parameter lock (Digital Series): Long press the specified key (varies by model) to lock the parameter settings, preventing misoperation. The unlocking method is the same as locking[7].

4.3 Display & Alarm Introduction

- Normal mode: Digital series - PV displays the current measured temperature, SV displays the target temperature; LED indicators show heating (H), alarm (AL) status. Pointer series - The pointer directly indicates the current temperature, and the scale is clear for easy reading[3][7].

- Setting mode: Digital series - The flashing display indicates the parameter being set (target temperature, constant temperature time), with clear prompts. Pointer series - No separate setting mode, direct knob adjustment[3][6].
- Alarm mode: Over-temperature alarm - The "ALM" indicator is on, the buzzer beeps. Sensor fault alarm - Digital series displays "---", the buzzer beeps continuously, and the heating output is automatically disconnected; pointer series has obvious pointer deviation[3].

5. Wiring Instructions

Please turn off the power before wiring to avoid electric shock. The basic wiring of SKG temperature controller is as follows (please refer to the product label or corresponding full-version manual for specific model details to ensure correct connection and EU compliance for cross-border sales, in line with IEC 60335-1:2020 standards for live part protection and terminal identification[4][7]):

- Power Terminal (L/N): Connect to AC 110/220/380V power supply according to the model, ensuring stable power input to avoid equipment malfunctions. The input power and current must be within the standard allowable deviation range; the power terminal must be marked with voltage parameters clearly[6][8][10].
- Input Terminal (IN): Connect to the temperature sensor (thermocouple/Pt100), ensuring tight connection for accurate signal transmission; keep the sensor line away from the power line to avoid electromagnetic interference[8][10].
- Output Terminal (OUT1/OUT2): Connect to the load (heater, cooler, compressor, solid-state relay, etc.), and match the load type with the controller's output mode, ensuring that the load power does not exceed the rated load of the controller. The output terminal must be clearly marked to avoid wrong connection[6][8].
- Ground Terminal (PE): ⚠ **Mandatory grounding** (complies with EU safety regulations) to ensure safe use and prevent electrical hazards, which is required for EU cross-border sales. The grounding must meet the requirements of EU LVD directive to effectively prevent electric shock; the grounding terminal must be marked with the IEC 60417-5019 standard grounding symbol[4].

💡 ⚠ WARNING: Wrong wiring (especially no grounding, wrong voltage connection or wrong sensor connection) may cause electric shock, fire or product damage, violate EU regulations, and fail to meet cross-border platform requirements. Please double-check the wiring before power-on. Use standard wiring materials and ensure that the wiring is firm to avoid poor contact causing overheating. The controller can be used at an altitude below 2500 meters for full-load operation; for altitudes above 2500 meters, the load power should not exceed 80% of the rated power[7].

6. Notes

- Install the controller in a dry and ventilated place, away from high temperature, humidity, strong electromagnetic interference, flammable/explosive materials and corrosive gases, in line with the ambient temperature and humidity requirements. Install firmly according to the installation type (panel/rail), and the installation height is preferably 1.4m; avoid installation near cold and heat sources or direct sunlight[7].
- Regularly check the wiring, sensor connection and controller status to ensure stable operation, EU compliance and meet cross-border platform requirements. Regularly clean the display panel and wiring terminals to avoid dust affecting the reading and poor contact; calibrate the controller regularly to maintain measurement accuracy. Do not let water, cement slurry, metal particles and other debris enter the controller[7].
- Clean the controller surface with a dry, soft cloth; do not use corrosive cleaners to avoid damaging the product and its internal components. The product's surface marks (including CE mark, RoHS mark) must be kept clear and not faded, meeting the durability requirements of EU IEC 60335-1:2020 standard. Keep the EU RoHS test report, Declaration of Conformity and technical documentation properly for 10 years to cope with EU market supervision and inspection[4].
- ⚠ CAUTION: If the controller fails (display failure, abnormal heating/cooling, alarm failure, temperature deviation or sensor error), turn off the power immediately and contact professional maintenance personnel; do not attempt to repair it yourself to avoid safety risks. Use only SKG-approved accessories and peripheral equipment to ensure compliance and performance. Do not modify the internal parameters at will to avoid functional failure[7].
- Strictly follow this manual for installation, use and storage to avoid potential safety hazards and ensure compliance with EU regulations (EMC, LVD, RoHS, WEEE) and cross-border platform sales requirements. The product is suitable for industrial and commercial equipment; do not use it for non-designated purposes to avoid safety accidents. Advanced parameter settings (digital series) should be modified under the guidance of professionals[3][7].
- The EU Declaration of Conformity, RoHS test report (2025 latest version) and detailed English operation manual for this product are available through SKG official channels, which can be provided to the market supervision authority and cross-border platforms when required. The product label must include manufacturer name, model, rated parameters, CE mark, RoHS compliance mark and other mandatory information, meeting EU regulatory requirements[4][8].

7. Warranty

SKG temperature controller provides a 12-month warranty from the date of delivery. Under normal use and installation in accordance with this manual (and EU regulations, cross-border platform requirements), free repair or replacement service is provided for defects caused by materials or workmanship. The warranty does not cover damage caused by improper operation, wrong wiring, unauthorized disassembly, non-compliance with EU regulations, external factors, use of non-approved accessories, failure to follow the instruction manual or normal wear and tear. The temperature sensor is a vulnerable part and is not covered by the warranty[8].

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EU Compliance: Meets EU EMC 2014/30/EU, LVD 2014/35/EU, RoHS 2011/65/EU (2025 latest 10 items control standard) and WEEE 2012/19/EC directives (Fully Complies with AliExpress, Amazon, TEMU EU Sales Requirements), with CE certification[4][8]
Remark: This is a simplified EU compliance manual. For detailed operation steps, parameter settings and advanced functions of specific models, please refer to the corresponding full-version manual. Ensure compliance with the target EU country's language requirements when selling. This manual is for reference only; consult a legal advisor for specific compliance details. Read this instruction manual carefully before use.

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